

KUZIN, A.A.

M.V. Lomonosov's work in behalf of the Board of Mines. Vop. 1st.  
est. i tekhn. no.13:114-117 '62. Vop. 1st. est. i tekhn. no.13:  
114-117 '62. (MIRA 16:5)

(Lomonosov, Mikhail Vasil'evich, 1711-1865)

TROSHIN, Anatoliy Konstantinovich; KUZIN, A.A., otv. red.;  
SKACHKOV, S.A., red. izd-va; RYLINA, Yu.V., tekhn. red.

[Ivan Evstaf'evich Vlasov, a Russian voivode and  
mineralogist of the 17th century] Ivan Evstaf'evich Vlasov -  
voevoda - rudoznatets XVII v. Moskva, Izd-vo AN SSSR, 1963.  
45 p. (MIRA 16:11)  
(Mineralogists) (Vlasov, Ivan Evstaf'evich, 1628-1710)

KUZIN, Aleksandr Avraamovich; KUZ'MENKO, V.I., redaktor; RODIONOVA, Z.A.,  
redaktor; SMIRNOV, G.I., tekhnicheskiy redaktor

[Brief history of the development of drawing in Russia;  
manual for teachers] Kratkii ocherk istorii razvitiia chertesha  
v Rossii; posobie dlia uchitelei. Moskva, Gos. uchebno-pedagog.  
izd-vo M-va prosv. RSFSR, 1956. 107 p. (MLRA 10:4)  
(Drawing--History)

KUZIN, A.A.

The history of mechanical drawing in Russia during the second half  
of the nineteenth and the beginning of the twentieth century. Trudy  
Iant.ist.est. i tekhn. 8:166-184 '56. (MLRA 9:9)  
(Mechanical drawing)

KUZIN, A.A.

Mechanical drawing in Russia during the 18th and the first half  
of the 19th century. Trudy Inst.ist.est.i tekhn. 9:235-282 '57.  
(Mechanical drawing) (MLRA 10:5)

KUZIN, A.A.

"History of mechanical drawing in the Ural Mountain region and  
Siberia" by A.I. Aleksandrov. Reviewed by A.A. Kuzin. Vop.1st.  
est. i tekhn. no.11:168-169 '61.

(MIRA 14:11)

(Mechanical drawing)

(Aleksandrov, A.I.)

KUZIN, A. I., Engr

USSR/Metals - Welding

Oct 50

"One-Sided Automatic Welding of Low-Carbon Steel Up to 16 Millimeters Thick," Engineers  
N. A. Fedorov, A. I. Kuzin, T. Ya. Shandra

"Avtogen Delo" No 10, pp 17-20

Suggests one-sided welding under flux as most economical method, not requiring preliminary preparation of edges. Describes development of method for welding 900-1,032 mm diameter boilers made of steel 13-16 mm thick and construction of flux-supplying devices for straight and circular joints. Mechanical characteristics are no lower than those of joints welded from both sides.

PA 167T85

1ST AND 2ND CROSS										3RD AND 4TH CROSS									
PROCESSES AND PROPERTIES INDEX																			
<p><b>2382* One-Sided Automatic Welding of Low-Carbon Steel of Up to 16-Mm. Thickness. (In Russian.) N. A. Fedorov, A. I. Kuzin, and T. Ya. Shandra. <i>Avtojennoe Delo</i> (Welding.) v. 21, Oct. 1950, p. 17-20.</b></p> <p>The welding of longitudinal or ring seams (as in boilers) on one side of the part being welded, using a flux "pad" on the back of the seam, was investigated. Means of supporting the "pad" against the joint were studied. Strength characteristics of such welds, compared with those welded on both sides, were satisfactory. Data are tabulated.</p>																			
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION										SIGN. ROWING									
12000 9 17181100										121111 001 001 101									
12000 9 17181100										121111 001 001 101									

KUZIN, A. I.

USSR/Engineering - Welding, Materials

Mar 52

"Electrode Coating BKZ," A. I. Kuzin, Engr

"Avtogen Delo" No 3, p 24

Describes coating which improves slag separability and decreases porosity of weld metal, giving compn: 30% hematite, 29% feldspar, 27.2% low-carbon ferromanganese, 9.2% manganese ore, 4.6% starch and water glass in 30/35 ratio, dry wt. Discusses possibility of using blast-furnace ferromanganese instead of that made in elec furnace.

212T26

KUZIN, A. I.

USSR/Engineering - Welding, Boilers

Apr 52

"Welding in the Fabrication of Low-Power Steam Boilers at Biysk Boiler Plant," A.I. Kuzin, Engr

"Avtogen Delo" No 4, pp 21-25

Describes methods of rapid manual welding, automatic welding under flux and semiautomatic hose welding, and also special stands for holding and turning various parts of boiler during welding operations. Briefly discusses X-ray control of welded seams. Vol of automatic welding executed at plant in 1951 amounts to 802% if production of 1948 is taken as 100%.

212T36

GAYEVVOY, T.V.; KUZIN, A.I.; ASHIS, A.Ye.; FED'KO, I.V.

Use of electric slag welding for the repair of locomotive  
plate frames. Avtom. svar. 14 no.11:42-46 N '61.

(MIRA 14:10)

1. Peltavskiy parovozoremontnyy zavod (for Gayovoy, Kuzin).
2. Ordena Trudovogo Krasnogo Znameni institut elektrosvarki  
imeni Ye.O. Patona AN USSR.  
(Locomotives Maintenance and repair)  
(Electric welding)

KUZIN, A.I., starshiy prepodavatel'

[Testing structures and structural elements] Ispytanie  
stroitel'nykh sooruzhenii i konstruktsii; uchebno-  
metodicheskoe posobie dlia studentov zaocnogo fakul'teta.  
Gor'kii, 1962. 120 p. (MIRA 16:4)

1. Gorki. Inzhenerno-stroitel'nyy institut.  
(Building research)

KUZIN, A.I.

Spot welding of ties for the fastening of lumber. Avtom. svar. 16  
no.9:83-85 S '63. (MIRA 16:10)

1. Poltavskiy parovozoremontnyy zavod.

GAYEVOY, T.V.; KUZIN, A.I.; ASNIS, A.Ye.; GUTMAN, L.M.

Welding up cracks in locomotive wheels by the electric slag method. Avtom. svar. 16 no.12:73-78 D '63.

(MIRA 17:1)

1. Poltavskiy parovozoremontnyy zavod (for Gayevoy, Kuzin).
2. Institut elektrosvarki imeni Patona AN UkrSSR (for Asnis, Gutman).

CA

151 AND 152 ORDERS

PROCESSES AND PROPERTIES INDEX

151 AND 152 ORDERS

76

The reaction of yeast enzymes on glyoxylic acid. A. STEPANOV AND A. KUZIN. Ber. 63B, 1147-53; J. Russ. Phys.-Chem. Soc. 62, 267-80(1930). — In a macerated juice obtained from bottom yeast contg. 0.45% glyoxylic acid,  $p_a$  5 to 6 at 37°, the products were  $CO_2$ ,  $AcH$ , glycolaldehyde, glycolic, oxalic, hydronyktosuccinic and malic acids. No traces of formaldehyde,  $MeOH$  or pyruvic acid were found. Oxalic and glycolic acids formed in equimol. masses by oxide reduction from the glyoxylic acid. Their total quantity reached about 15-21% of the used acid. Special study was made of the glycolaldehyde, obtaining its *p*-nitrophenylhydrazine and hydrazone derivs. and the osazone.

MARY E. LEAR

65R-5LA METALLURGICAL LITERATURE CLASSIFICATION

65R-5LA METALLURGICAL LITERATURE CLASSIFICATION

65R-5LA METALLURGICAL LITERATURE CLASSIFICATION

65R-5LA METALLURGICAL LITERATURE CLASSIFICATION

CA

Preparation of soluble starch by enzyme action. A. V. SERPANOV AND A. KUZIN  
Khim. Farm. Prom. 1932, 321-5.—Three % starch paste is warmed to 60° with the  
enzyme (0.4% of the amt. of starch). After 15 min. the temp. is rapidly raised to boil-  
ing and kept there for 3 min. The mixt. is filtered on sand with suction and the filtrate  
treated with alc., filtered, the solid washed with alc. alc. and dried in vacuo. The  
product is very sol. and contains no dextrans or reducing sugars. I. N.

116

Sugars for microbiological uses. STEPANOV AND A. KUM. *Khim. Farm. Prom.* 1, 24-5 (1932).—The old and new methods for prepn. of lactose for microbiological practice are described.

LEO NARASHVICH

CO 118

PROCESSES AND PROPERTIES INDEX

Sugars for microbiological uses. Maltose. A. SIFKOV AND A. KAMAR. *Khim. Farm.* 1933, No. 2-3, 67-68; cf. C. A. 24, 3273. Numerous methods are cited with the following as the most efficient: 5% starch soln. with 0.1% of enzyme from malt ext. is kept at 37° for 24 hrs. At the end of hydrolysis albumins are coagulated by warming and clear maltose sirup is filtered off. Purification by recrystn. is described and the purity is checked by chem. and biochem. methods. L. NARAYAN

ASH S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

PROCESS AND PROPERTIES INDEX																									
1ST AND 2ND ORDERS													3RD AND 4TH ORDERS												
<div style="float: left; width: 10%; font-size: 2em; font-weight: bold;">CA</div> <div style="float: right; width: 10%; font-size: 2em; font-weight: bold;">28</div> <div style="clear: both;"></div> <p><b>Sugars for microbiological uses. IV. Fructose.</b> A. Stepanov and A. Kuzin. <i>Khim. Farm. Prom.</i> 1933, 267-274; cf. C. A. 28, 8115. --Uncrystallisable brown syrup obtained in the manuf. of cane sugar is treated with technical lime, on the basis of 70% CaO on the fructose.</p> <p>The syrup is slowly added to the stirred and cooled lime soln. Ca fructosate is filtered and washed by decantation, decomposed by pouring its suspension into 25% H<sub>2</sub>SO<sub>4</sub>, filtered and the fructose soln. concd. in vacuum evaporators and crystd., beat from CH<sub>3</sub>OH. The product corresponds to c. p. requirements for microbiological uses.</p> <p><b>V. Galactose.</b> A. Stepanov and N. Nevraeva. <i>Ibid.</i> 265-9. --Lactose soln. (25%) is hydrolyzed with 1% H<sub>2</sub>SO<sub>4</sub> at 110° in an autoclave in an atmosphere of CO<sub>2</sub>. The sulfates are removed with lime, the pH adjusted to 5 with CH<sub>3</sub>COOH and glucose removed by fermentation. The galactose is crystd. from 85% alc. and twice from 90% alc. The product (about 64% of the theory) is suitable for microbiological uses. L. Namarevich</p>																									
<div style="display: flex; justify-content: space-between;"> <div> <p>ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>SECTION SYMBOLS</p> </div> <div> <p>ALPHABETIC INDEX</p> <p>SYMBOLS</p> </div> </div>																									

1st AND 2nd INDEX										3rd AND 4th INDEX									
PROCESSING AND PROPERTY INDEX																			
<div style="font-size: 2em; font-weight: bold; margin-bottom: 10px;">BC</div> <div style="text-align: right; font-size: 1.5em; margin-bottom: 10px;">A-3</div> <div style="text-align: center;"> <p><b>Catalytic action of monoses on the oxidation of aldehydes. II. Synthetic ref. pentacrythritol. A. Koser. J. Gen. Chem. Russ. 1925</b></p> <p><b>5, 1527-1529.</b>—Glucose or fructose catalyze the condensation of <math>\text{CH}_2\text{O}</math> and <math>\text{MeCHO}</math> to pentacrythritol.</p> <p style="text-align: right;">R. T.</p> </div>										<div style="text-align: center; font-weight: bold; margin-bottom: 10px;">A 50-514 METALLURGICAL LITERATURE CLASSIFICATION</div>									
10000 00000										10000 00000									
10000 00000										10000 00000									

10

10

The emulsification of sugars under the action of various bases. A. Kuzin. *Biochemistry* (U. S. S. R.) 1, No. 1, 101-112 (in English 112) (1963).--A comparative study was made of the action of Ca(OH)<sub>2</sub> and NaOH on glucose and fructose at 25° over 1-24 hrs. With the use of Ca(OH)<sub>2</sub>, the sugars showed reducing properties in acid soln. (reduction of dichloroindophenol and I) and gave characteristic color reactions with FeCl<sub>3</sub>. Under the same conditions NaOH does not produce such changes. Ca(OH)<sub>2</sub> favors the formation of mannose from glucose, while NaOH tends to form fructose. It is suggested that the differences are due to the tendency of the various bases to give either cyclic or straight chain enolic forms of the sugars.

S. A. K.

Lab. of Organic Chem. The 1st. Moscow Med. Inst.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

KUZIN, A.

On the active form of simple sugars. II A comparative study of the oxidizability of 6- glucosephosphate and glucose, A. KUZIN and A. KOCHIN  
(CARBOHYDRATE LABORATORY, VIEM, MOSCOW ) vol. 1, no.6, p.676, 1936.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

ca

11a

Enzymic synthesis of carbon chains. VII. The existence of carbolligase. A. Kuzin, *Biochimica J.* 70: 81 (1967), cf. C. A. 28, 4280. Acetylmethylcarbinol (acetoin) is formed from diol by the action of an enzyme prepn. obtained from yeast maceration juice. The action takes place (contrary to the opinion of Neuberg) when a glycerol-free enzyme prepn. is used, and in the absence of a simultaneous decarboxylation. H. Cohen

Lab. of Carbohydrates, Chem. Sect, Vrem, Mos. cov.

ASB.SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM: 11/11/1974

TO: 11/11/1974

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

ca

10

PROCESSING AND PROPERTIES INDEX

The catalytic action of monoses on the condensation of formaldehyde. IV. Vitamin C as a catalyst for the synthesis of carbon chains. A. Kusin. *Biokhimiya* 2, 122-34(1937); cf. C. A. 36, 2172<sup>1</sup>.--Ascorbic and isonascorbic acids, in common with substances containing a carbinol group, catalyze the condensation of HCHO to sugar. The addn. of HCHO to isonascorbic acid greatly diminishes the reducing power of the latter; apparently an addn. product is formed. It is suggested that vitamin C, besides regulating oxidation-reduction processes, is also instrumental in catalyzing the building of C chains in the living organism, especially the conversion of HCHO into sugar.

H. Cohen

The carbohydrate Lab. Viem, Moscow

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

100000 01

100000 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

32

A-1

**Reactivity of formaldehyde in presence of various bases.** A. KUZIN (J. Gen. Chem. Russ., 1937, 7, 2954—2963).—Reduction of  $\text{Cu}^{II}$  by  $\text{CH}_2\text{O}$  in presence of  $\text{Ca}(\text{OH})_2$  is  $>$  with  $\text{NaOH}$ . The velocity of the reaction  $2\text{CH}_2\text{O} \rightarrow \text{MeOH} + \text{HCO}_2\text{H}$  is greater in presence of  $2\text{N-NaOH}$  than of  $2\text{N-Ca}(\text{OH})_2$  for 4–20%, but not 40%.  $\text{CH}_2\text{O}$ . The reaction  $\text{CH}_2\text{O} + \text{MOH} \rightarrow \text{HCO}_2\text{M} + \text{H}_2$  in presence of  $\text{CuSO}_4$  or  $\text{Cu}_2\text{O}$  is greater when  $\text{M} = 0.5\text{Ca}$  than when  $\text{M} = \text{Na}$ ; this is due to the more rapid formation of  $\text{Cu}$ , which catalyzes the reaction, in the former case. In the system  $\text{CH}_2\text{O-H}_2\text{O-alkali-Cu}$  the reaction proceeds at the same rate with  $\text{Ca}(\text{OH})_2$  as with  $\text{NaOH}$ . It is supposed that  $\text{CH}_2\text{O}$  reacts with  $\text{NaOH}$  to yield  $\text{OH-CH}_2\text{-ONa}$ , dissociating into  $\text{OH-CH}_2\text{-O}^-$  and  $\text{Na}^+$ , whilst with  $\text{Ca}(\text{OH})_2$  the reaction is  $\text{OH-CH}_2\text{-O-CaOH} \rightarrow \text{OH-CH}_2\text{-O}^- + \text{Ca}(\text{OH})_2$ . R. T.

STANDARD INDEX																										STANDARD INDEX																									
STANDARD INDEX																										STANDARD INDEX																									
<p><i>Ca</i></p> <p>Catalytic effect of monoses on the condensation of form aldehyde to sugars. V. Course of condensation reaction in the presence of concentrated salt solutions. A. Kuzin. <i>Biochimica</i> 3, 10-27(1938); cf. C. A. 31, 5325. HCHO can be condensed to sugars at body temp. (37°), and in almost neutral soln. (pH 8.2), by using a supersatd. soln. (75%) of Mg subacetate, in the presence of a small amt. of an ene-diol catalyst (fructose, glycolaldehyde or ascorbic acid). H. Cohen</p> <p>Chemical Section viem from the Lab. of Organic Chemistry at the First Moscow Medical Institute.</p> <p>ASB-356 METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSING AND PROPERTIES INDEX																																																			
CA																										11A																									
<p>Reaction capacity of physiologically important substances in mixtures. 1. Oxidizability of aldehydes in the presence of amino acids. A. M. Kuzin. <i>Biokhimiya</i> 3, 481-9(1938).—In the presence of glycine, AcH is oxidized to glycolic aldehyde by I in acid soln. This apparent enolizing effect of amino acids may be concerned in the synthesis of sugars from <math>CH_2O</math> in the presence of endiol catalyzers, and also explains the transition from AcH to simple sugars in the resynthesis of carbohydrates in muscle.</p> <p>H. Cohen</p>																																																			
<p>ASM-ILA METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>SEARCHED INDEXED SERIALIZED FILED</p>																																																			

PROCEDURES AND PROPERTIES																									
EST. AND LINE ORDERS																									
<p><i>New synthesis of glycolaldehyde and glyceraldehyde.</i>  A. Kuzin, <i>J. Gen. Chem.</i> (U. S. S. R.) <b>8</b>, 592 (1938);  cf. C. A. <b>29</b>, 3987, 7287. -- Previous expts. in the catalytic  condensation of HCHO to sugars with Ca saccharate have  been extended to the isolation of the intermediate gly-  colaldehyde (I) and the prepa. of glyceraldehyde (II).  A mixt. of 400 ml. of 40% CH<sub>3</sub>O, 40% Ca(OH)<sub>2</sub> and 10 g.  glucose in 4 l. water was held at 37° until the reducing  power of the reaction liquid for cold Fehling soln. had  reached a max. The cold reaction mixt. was neutralized</p>																									
<p>with H<sub>2</sub>SO<sub>4</sub>, the filtrate was acidulated with AcOH and  evapd. at reduced pressure (5 mm.). The residue was  extrd. with abs. alc. and the filtrate from pentoses and  hexoses was freed from the alc. by vacuum distn. The  sirupy residue was dissolved in 100 ml. of abs. alc. contg.  2% HCl and, after standing for 7 days at room temp., was  neutralized with crys. Na<sub>2</sub>CO<sub>3</sub> and the filtrate was coned.  to 100 ml. After the removal of unaltered glucose with  CHCl<sub>3</sub>, the alc. was driven off at 25 mm. and the residue  was fractionated at 5 mm. pressure. The avertal fraction  (13 g.), b. 110°, was decompd. with 0.1 N H<sub>2</sub>SO<sub>4</sub> and,  after neutralization with BaCO<sub>3</sub>, the hydrolyzate was  coned. and redistd., giving 45% I (based on CH<sub>3</sub>O);  osazone, m. 160-70°. II was obtained in 75% yield by  digesting at 35° 4 g. I and an equiv. of CH<sub>3</sub>O (2 g.) with  25 ml. of 5% Ca(OH)<sub>2</sub> until the odor of CH<sub>3</sub>O had dis-  appeared (3-5 min.) and then quickly neutralizing with  an equiv. of C<sub>2</sub>H<sub>5</sub>NH<sub>2</sub> in H<sub>2</sub>O. The filtrate, contg. a slight  excess of AcOH, was evapd. and redistd. in vacuo. II  with PhNHNH<sub>2</sub>, on boiling for 1.5 hrs. gave the osazone,  m. 135° (alc.). Chas. Blanc</p>																									
<p>ASS-56A METALLURGICAL LITERATURE CLASSIFICATION</p>																									

PROCESS AND PROPERTIES INDEX

A-3

Synthesis of sugars from formaldehyde. VI.  
Mechanism of the reaction. A. KUZIN (J. Gen.  
Chem. Russ., 1938, 8, 779-786).—Extensive photo-  
metric studies of the reaction of condensation of CH<sub>2</sub>O  
in presence of Ca(OH)<sub>2</sub> (A., 1936, II, 43) are criticized  
on the grounds that variations in the temp. of the  
systems were not taken into account. The following  
reaction mechanism is advanced, as being more in  
accord with the facts : OH-CH<sub>2</sub>-CHO-OH (I) + OH-(OH),  
(II) → OH-CH<sub>2</sub>-CH(OH)-CH(OH)-  
(+MOH) OH-CH<sub>2</sub>-CH(OH)-CH(OH)-  
OH-CH<sub>2</sub>-CHO → (+ (II))  
OH-CH<sub>2</sub>-CH(OH)-CH(OH)-CHO → (I) +  
OH-CH<sub>2</sub>-CH(OH)<sub>2</sub> (III); (III) → OH-CH<sub>2</sub>-CHO (IV)  
→ (+ (II)) OH-CH<sub>2</sub>-CH(OH)-CH(OH)-. In this  
reaction M = O-SO<sub>3</sub>; (IV) functions as an auto-  
catalyst, and functioning as a catalyst. Under con-  
ditions of biosynthesis (I) may be fructose or ascorbic  
acid.

R. T.

ASS.-SLA DETAILURGICAL LITERATURE CLASSIFICATION

FROM SYNDICATE  
LIT. NO. 02

FROM THE ONE BOX  
LIT. NO. 02

FROM THE ONE BOX  
LIT. NO. 02

PROCESSING AND PROPERTY INDEX																									
1ST AND 2ND CODES													3RD AND 4TH CODES												
<p>CO</p> <p>✓ The reaction capacity of physiologically important substances in mixtures. II The reaction capacity of acetone in the presence of glycine. A. M. Kuzin and N. A. Nevskaya. <i>Biochimiya</i> 4, 112 (1969); <i>Tr. A. S. 33, 650</i>. Addnl. proof that carbonyl compds. are activated by amino acids is shown by the fact that acetone, in the presence of glycine, reacts much more rapidly with I. NaHSO<sub>4</sub> and furalol. III Reaction of simple sugars in the presence of glycine. A. M. Kuzin and Z. Makayeva. <i>Ibid.</i> 3:67-72. — Small amts. of glycine accelerate the reduction by glucose of Fehling soln. Larger amts. retard reduction and in a satd. soln. of glycine or other amino acid completely inhibit the reduction. Addnl. of 0.7% glycine to Barford's reagent will completely prevent reduction by glucose. No reduction by glucose of Ag<sub>2</sub>O, pyric acid and Indigo Blue will occur when glycine is added to the soln. II Priestley</p> <p>Verayeva, II d</p> <p>Makayeva</p>																									
<p>ASB-5.5.4 DETAILING LITERATURE CLASSIFICATION</p> <p>32041 519-02196</p> <p>32041 519-02196</p> <p>32041 519-02196</p>																									

1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSES AND PROPERTIES INDEX																			
BC										6-3									
<p><b>Reaction effect of biologically important substances in solution.</b> (1) Reaction of glucose groups in presence of glucose. A. G. Kiselev and E. M. Kiseleva (Zhurnal, 1958, 4, 367—375).—The reducing power of monomers is increased in presence of small amounts of glycine (2), but with increase of the latter the reducing power is decreased, becoming zero with a saturated solution of (2). Easily unstable compounds of (1) and the monomers are formed that, in presence of small amounts of (2), are decomposed with liberation of enolized sugar derivatives which cause the activation effect. With 1 g (A., II.)</p> <p>some solutions of (1), removal of (2) from the compound is inhibited, and no reducing groups are liberated. J. N. A.</p>																			
Carbohydrate Laboratory, Vinnitsa, Moscow																			
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION																			
SOURCE #1										SOURCE #2									
SOURCE #3										SOURCE #4									
SOURCE #5										SOURCE #6									
SOURCE #7										SOURCE #8									
SOURCE #9										SOURCE #10									
SOURCE #11										SOURCE #12									
SOURCE #13										SOURCE #14									
SOURCE #15										SOURCE #16									
SOURCE #17										SOURCE #18									
SOURCE #19										SOURCE #20									
SOURCE #21										SOURCE #22									
SOURCE #23										SOURCE #24									
SOURCE #25										SOURCE #26									
SOURCE #27										SOURCE #28									
SOURCE #29										SOURCE #30									
SOURCE #31										SOURCE #32									
SOURCE #33										SOURCE #34									
SOURCE #35										SOURCE #36									
SOURCE #37										SOURCE #38									
SOURCE #39										SOURCE #40									
SOURCE #41										SOURCE #42									
SOURCE #43										SOURCE #44									
SOURCE #45										SOURCE #46									
SOURCE #47										SOURCE #48									
SOURCE #49										SOURCE #50									
SOURCE #51										SOURCE #52									
SOURCE #53										SOURCE #54									
SOURCE #55										SOURCE #56									
SOURCE #57										SOURCE #58									
SOURCE #59										SOURCE #60									
SOURCE #61										SOURCE #62									
SOURCE #63										SOURCE #64									
SOURCE #65										SOURCE #66									
SOURCE #67										SOURCE #68									
SOURCE #69										SOURCE #70									
SOURCE #71										SOURCE #72									
SOURCE #73										SOURCE #74									
SOURCE #75										SOURCE #76									
SOURCE #77										SOURCE #78									
SOURCE #79										SOURCE #80									
SOURCE #81										SOURCE #82									
SOURCE #83										SOURCE #84									
SOURCE #85										SOURCE #86									
SOURCE #87										SOURCE #88									
SOURCE #89										SOURCE #90									
SOURCE #91										SOURCE #92									
SOURCE #93										SOURCE #94									
SOURCE #95										SOURCE #96									
SOURCE #97										SOURCE #98									
SOURCE #99										SOURCE #100									

1ST AND 2ND ORDERS																										100 AND 8TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Comparative study of the properties of enzymes and heating carbon chains: carboligase and aldolase. V. M. Kurin and E. V. Sukhareva-Hinditskaya. <i>Izv. Akad. Nauk SSSR, 4, 445 (1930)</i>. Carboligase and aldolase are not identical. Carboligase is inactivated by dialysis and by heating to 50°, whereas the activity of aldolase remains unchanged.</p>																										11a																									
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION																										E2																									
E2																										E2																									

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										1ST AND 2ND ORDERS																									
<p><i>ca</i></p> <p><b>Mechanism of sugar synthesis from products of glu- colysis. 2. Oxidation of pyruvic acid in the presence of glycine. A. M. Kuzin and Z. Alakova. <i>Biokhimiya</i> 4, 110-60 (1939). — The oxidation of pyruvic acid to hydroxy- pyruvic acid, which has often been postulated in enzymic reactions, has been accomplished experimentally. The <i>p</i>-nitrophenylhydrazones of hydroxypyruvic acid was</b></p> <p>isolated from the reaction mixt. of pyruvic acid, glycine and I. H. Priestley</p>																										<p><i>11a</i></p>																									
ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION																										ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION																									

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
CA													11A																																						
<p>The role of ascorbic acid in the synthesis of carbon chains. A. M. Kuzin. <i>Izvestiya Akad. Nauk S. S. R.</i> 1940, No. 4, 87-90; <i>Khim. Refrat. Zhur.</i> 4, No. 9, 67(1941).--The synthesis of sugar from <math>\text{C}_2\text{H}_4\text{O}</math> in the presence of <math>\text{Ca}(\text{OH})_2</math> takes place with the help of the active enol group of org. catalysts. A scheme of this synthesis is given, which is supported experimentally. The views on the part played by the ascorbic acid in the synthesis of sugar in the leaves of plants agree with data given in the literature regarding the parallelism between the content of vitamin C in the green parts of the plant and the activity of the assimilation and are supported by expts. <i>in vitro</i> under conditions similar to natural conditions. Model expts. indicate that amino acids can act as emolizing agents in the plant. The role of ascorbic acid in the synthesis of optically active carbohydrates explains the biol. specificity of its L-isomer.</p> <p style="text-align: right;">W. R. Henn</p>																																																			
<p>ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>REGION CIVILIZATION      REGION DOMINANT</p> <p>GROUPS      SUBGROUPS      DETAIL      DETAIL</p>																																																			

**CIA-RDP86-00513R0009280100**

1ST AND 2ND GROUPS																									
PROCESSES AND PROPERTIES INDEX																									
<p><i>Handwritten:</i> A-4</p> <p><i>Printed:</i> <b>Section 1. The reaction of carbon dioxide with metal oxides.</b>  <b>A. Reaction of carbon dioxide with metal oxides.</b>            —The reaction of carbon dioxide and metal oxides is shown by marked diagrams (1) in the effect of increased temp. and the action of CO<sub>2</sub> on the metal oxides (2) on the two points. The diagram (3) for the reaction of CO<sub>2</sub> on the metal oxides is shown in the diagram (4) for the reaction of CO<sub>2</sub> on the metal oxides. Optically active oxides are produced from metal oxides without decomposition, which temp and suggest Discher's hypothesis.</p>																									
<p><i>Handwritten:</i> LAB. OF Organic Chemistry, 3rd Moscow Med. Inst. MOSCOW</p>																									
<p>ASM-31A METALLURGICAL LITERATURE CLASSIFICATION</p>																									

11 A

pa

Morphological structures and enzymic reactions. A. M. Kuzin and O. Bogdashevskaya. *Russkaya S.* 330-3. (1944).--The hydrolysis rate of sucrose by invertase in aq. soln. contg. egg albumin is decreased when the soln. is transformed into foam by mech. stirring. The increase in egg-albumin surface is thus accompanied by a decrease in the rate of hydrolysis. Gelatin is decompd. by pepsin at a much slower rate when the reaction mixt. is spread out in a thin layer on glass. H. Priestley

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND SECTIONS										3RD AND 4TH SECTIONS									
PROCESSING AND PROPERTIES INDEX																			
<p>BC</p> <p>Specific polysaccharides of blood. A. Stepanov, A. Kuzin, Z. Makhov, and P. Kozlov (Soviet Union, 1940, S. 547-548).—A method of isolating and purifying complex group-sp.</p> <p>polysaccharides (Gly) —55° to —60° from human blood is described, the yields from 40 l. of group A and group B blood being 100 and 81 mg. respectively. The polysaccharides contain L-arginine and yield glucose and aminoacids on hydrolysis but they contain no lipin, protein, pentose, fructose, S, P, or uronic acid. They bind the α- and β-agglutinins of human serum. W. McC.</p> <p>CARBOHYDRATE LABORATORY VIEM, AND THE SEROLOGICAL LABORATORY OF THE RESEARCH INSTITUTE FOR JUDICIAL MEDICINE, MOSCOW</p> <p>ASS-51A METALLURGICAL LITERATURE CLASSIFICATION</p>																			
FROM STUDY										FROM SOURCE									
TO BE USED FOR ONLY ONE										TO BE USED FOR ONLY ONE									
TO BE USED FOR ONLY ONE										TO BE USED FOR ONLY ONE									

1ST AND 2ND SERIES		3RD AND 4TH SERIES	
<p>CA</p> <p>Formation and properties of addition compounds of amino acids and sugars. A. M. Kuzin and O. Polyakova. <i>Biochimiya</i> 6, 113-21 (1941).—The amino-N content gradually drops when glucose and alkali are present in a concd. glycine soln. A new compd. is formed, through the union of the amino and carbonyl groups. This explains why the amino-N decrease varies with the sugar and alkali concns., and why sucrose, which lacks a free carbonyl group, is without effect on glycine. The Ca salt of the addn. compd. (the N-glucoside of glycine) is prepd. thus: To 10 g. of glycine and 48 g. of glucose in 100 cc. of water there is added 10 g. Ca(OH)<sub>2</sub>. After the main mass of the Ca(OH)<sub>2</sub> has dissolved, the soln. is filtered and set aside at room temp. A cryst. ppt. appears in about 24 hrs., and in 48 hrs. the entire mass has solidified. The solid is collected by filtration, washed 3 times with water, and then with alc. The yield is 9.8 g., with 12.7-13.0% of Ca and 4.3-5.0% of N. The low Ca and N content is due to the absorption of CO<sub>2</sub>, which amounts to 7.3%. Glycine and glucose similarly unite in the presence of Ba(OH)<sub>2</sub>, but the resulting salt does not sep. out from soln., and must be pptd. with alc. Other amino acids are also capable of union with glucose, although amino acids of high mol. wt. unite less readily. H. P.</p>		10	
ASB-LLA METALLURGICAL LITERATURE CLASSIFICATION			
BOOK STORAGE		BOOK NUMBER	
<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>		<p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p>	

COMMON ELEMENTS		PROCESSES AND PROPERTIES INDEX	
<p><i>Handwritten: 11A</i></p> <p><b>Manner of the biochemical synthesis of isoprene type of carbon chains.</b> A. M. Kuzin and N. A. Nevrdva. <i>Biokhimiya</i> 6, 201-8(1941); cf. C. A. 34, 1693. —The hypothesis of Ruler that the isoprene skeleton in terpenes, rubber, phytol, etc., is formed <i>in vivo</i> through the condensation of <math>\text{Me}_2\text{CO}</math> and <math>\text{AcH}</math>, has previously lacked expl. verification. With glycine as catalyst, however, <math>\text{Me}_2\text{CO}</math> and <math>\text{AcH}</math> readily condense to form <math>\beta</math>-hydroxyisovaleraldehyde (I), which contains an isoprene type of chain. To a mixt. of 200 g. <math>\text{Me}_2\text{CO}</math>, 80 g. <math>\text{AcH}</math> and 6 cc. of water, there is added 60 g. absorbent cotton which had been wetted with a soln. of 10 g. glycine in 100 cc. of water and then dried. After standing for 8 hrs. at <math>0^\circ</math> and at room temp. for 48 hrs., the cotton is repeatedly extd. with ether. Removal of the ether leaves 68 g. of an oily product, which by fractionation yields 8.6 g. of I, b.p. <math>67-70^\circ</math>; semicarbazide, m. <math>125^\circ</math>. On heating the semicarbazide to <math>135-40^\circ</math>, it solidifies and melts with decompn. at <math>200-10^\circ</math>, the change apparently being due to the formation of a pyrazolone. Since this condensation takes place at a low temp., under the catalytic influence of a substance which is widely distributed in <u>living organisms</u>, there is reason to believe that in nature isoprene types of rings are formed in an analogous manner. H. Priestley</p>		<p><i>Handwritten: 11A</i></p>	
<p>ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>FROM SYNONYMS</p>		<p>TO SYNONYMS</p>	
<p>SECONDARY</p>		<p>SECONDARY</p>	

11F

*ca*

PROCESSES AND PROPERTIES INDEX

Blood glycogen in the light of investigations of specific blood polysaccharides. A. M. Kuzin and Z. Alakabva. *Nishikimiya* 6, 335-40 (1941); cf. C. A. 35, 4705<sup>a</sup>.—Blood polysaccharides from groups I(O), II(A) and III(H) differ from glycogen in not being attacked by amylase. Only the polysaccharide of group II(A) is not colored by I vapors, whereas the polysaccharides of groups I(O) and III(H) give colorations with I similar to the colorations produced by glycogen itself. The histological methods of detg. glycogen with I, or by coloration with carmine are unreliable, being not specific for glycogen. The main mass of substances sepd. by the classical Pflüger method (C. A. 5, 1029) consists not of glycogen but of polysaccharides. Actually, no glycogen can be detected in corpse blood, and only traces of glycogen (3 mg. per 100 cc.) are found in fresh blood. The increase of blood glycogen, so-called, in infectious diseases, cited in the literature, is in all probability an increase in the amt. of blood polysaccharides. The stability of the specific polysaccharides toward amylase makes it highly improbable that they participate in the carbohydrate metabolism of the blood. H. Priestley

ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION

11F

1ST AND 2ND COPIES										PROCESS AND PROPERTIES INDEX										100 AND 4TH COPIES									
<div style="position: relative;"> <div style="position: absolute; top: 10px; left: 10px; font-size: 2em; font-weight: bold;">BC</div> <div style="position: absolute; top: 10px; right: 10px; font-size: 2em; font-weight: bold;">C-2</div> <div style="position: absolute; top: 50px; left: 50px; border: 1px solid black; padding: 10px; width: 80%; height: 80%;"> <p>The general determination of glycogen in blood and tissues. A. H. Hays and T. A. Mahoney (Biochimica, 1944, 9, 14-21).—Preliminary experiments were made with pure glycogen and salivary diastase, and the following procedure was evolved. Blood (1 c.c.) or tissue (1 g.) is treated with 10% KOH (10 c.c.) for 1 hr. at 100°. The residue is then extracted with 10% NaCl (10 c.c.) in water, filtered, and the filtrate washed with 5% alcohol and dissolved in 10% HCl (2-15 c.c.). Alcohol (10 c.c., 95%) is added after 5 min., and after heating 15 hr. the mixture is centrifuged, and the pot. washed with 5% alcohol, dried at 100°, dissolved in 0.1% PO<sub>4</sub> buffer (pH 7.0, 1 c.c.), and centrifuged (fraction A). Commercial diastase (0.1 g.) dissolved in PO<sub>4</sub> buffer (100 c.c.) is centrifuged to give a solution of α-amylase activity not less than 7. To A (1 c.c.) is added 1 c.c. of 1% NaCl and the mixture is maintained at 37° for 2-4 hr., a second 10% HCl (1 c.c.) with 0.1 g. KCN. After 2 min., 2 c.c. of 1% NaCl is added and the heating continued for 15 min. The amount of glycogen is found from Benedict-Jensen tables both for the control (a) and for the test solution (b), the quantity of glycogen being 0.001-0.01 g. per 100 ml. and be determined; smaller amounts give less reliable results. P. Ht.</p> </div> </div>																													
A.S.M. I.A. METALLURGICAL LITERATURE CLASSIFICATION																													
REGION 111 BILBO										REGION 111 BILBO										REGION 111 BILBO									
REGION 111 BILBO										REGION 111 BILBO										REGION 111 BILBO									

ITZIN, A.

USSR

Tarasevich Central State Sci.Control Institute (-1944-)

"On Employment of Nicotinic Acid in Producing of Dysenteric Vaccines,"

SO: Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No.12, 1944

*CA*

*HA*

Role of autocatalysis during the synthesis of polysaccharides. A. M. Kuzin and V. I. Ivanov. *Biochimica* 10, 37-44(1948).—As is known, the synthesis of glycogen from glucose 1-phosphate is speeded up by the action of a little glycogen at the beginning of the process. Similarly, starch synthesis from glucose 1-phosphate is hastened if a little starch is present at the beginning. The synthesis of polysaccharides from glucose 1-phosphate is thus due to 2 factors: the enzyme phosphorylase and the presence at the beginning of the synthesis of traces of polysaccharide. Previously, it had been assumed that the nature of the polysaccharide synthesized was due entirely to the kind of the phosphorylase employed. The nature of the traces of the polysaccharide catalyst present at the beginning of the synthesis was ignored. However, the same enzyme may synthesize entirely different polysaccharides, depending on the kind of polysaccharide catalyst initially present. In expts. with potato phosphorylase, 20 mg. of Cori ester in the presence of 2 mg. of starch as catalyst yielded 7 mg. of a polysaccharide scarcely sol. in water and giving a blue coloration with I. When 2 mg. of glycogen was used as the catalyst, 6.6 mg. of a water-sol. polysaccharide was formed, which produced a reddish brown coloration with I.

H. Priestley

Lab. Organic Chem., Moscow Med. Inst.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

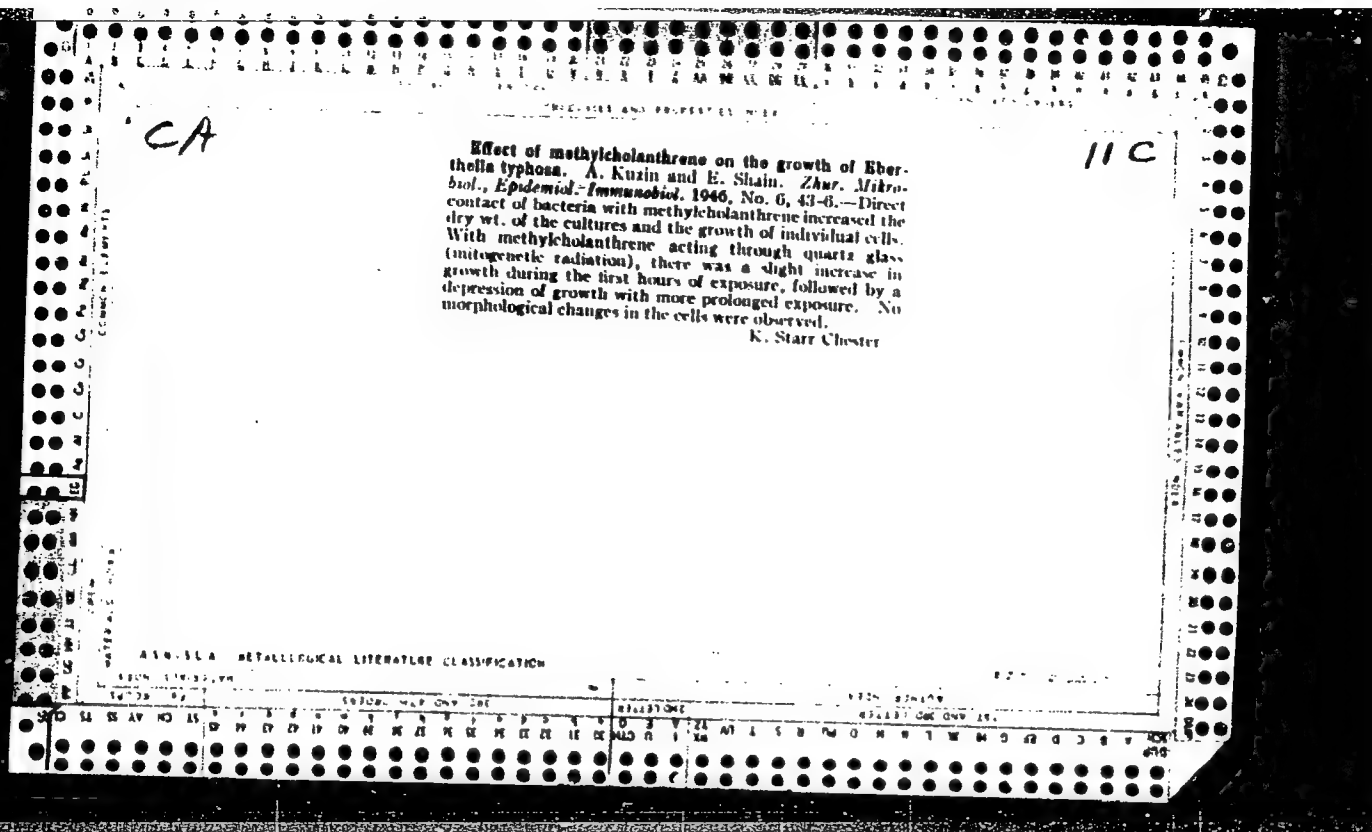
SEARCHED INDEXED SERIALIZED FILED  
MAY 19 1948  
U.S. DEPT. OF COMMERCE  
BUREAU OF MINES

1ST AND 2ND DEGREES																										3RD AND 4TH DEGREES																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>CA</p>																										<p>//A</p>																									
<p>Synthesis of the peptide bond in the presence of simple sugars. A. M. Kuzin and O. Polyakova. <i>Biochemistry</i> 10, 146 (1965); cf. C.A. 35, 7800. The enzymic synthesis of peptide linkages with benzoylated amino acids, according to Bergmann (C.A. 31, 6085, 32, 7185) has been studied in the presence of simple sugars (glucose, fructose, galactose). The yields of benzoylglycine-anilide (from hippuric acid and aniline) and of benzoyl-glycylglycine anilide (from benzoylglycine and glycine anilide) are increased 1.5-fold when a little sugar is added. Thus, 0.2 g. of conc. papain is suspended in 10 cc. of water and 10 cc. of citrate buffer of pH 5. After half an hour, the liquid is filtered, and to 10 cc. of the filtrate there is added 15 cc. of citrate buffer, 0.15 g. of cysteine-HCl (activator of papain), 0.9 g. hippuric acid, and 1 g. of aniline. The soln. is dild. to 50 cc. with water and divided into 2 portions. To one is added 0.45 g. of glucose; the other portion serves as a control. After 6 days at 40°, 31 mg. of benzoylglycine anilide was isolated from the glucose-treated portion and only 34 mg. from the control.</p> <p>H. Priestley</p>																																																			
<p>ASB-11A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			
<p>1ST AND 2ND DEGREES 3RD AND 4TH DEGREES</p>																																																			

PROCESS AND PROPERTY INDEX									
<div style="position: relative; height: 100%;"> <span style="position: absolute; left: -40px; top: 50%; transform: translateY(-50%); white-space: nowrap;">OPEN ELEMENTS C-QUANTUM ELEMENTS</span> <div style="float: right; width: 100px; text-align: right; font-size: 2em; font-weight: bold;">116</div> <p style="font-size: 1.5em; margin-top: 20px;"><i>Ca</i></p> <p><b>Specific polysaccharides from <i>Proteus</i> X<sub>10</sub>, X<sub>11</sub>, and X<sub>12</sub>. A. M. Kuzin, N. A. Nevskaya, and E. P. Alisova. (Moscow Inst. Serum Control). <i>Biochimiya</i> 10, 260-74 (1945).</b>—The strain of <i>Proteus</i> bacilli known as X<sub>10</sub> is agglutinated in the serums of typhus patients (Weil-Felix reaction). The strain X<sub>11</sub> is not agglutinated, whereas X<sub>12</sub> is agglutinated only in the serums of certain types of typhus fever. Since antigen specificity depends on the structure of the polysaccharide, it was of interest to det. just what differences exist in the polysaccharides of the respective organisms X<sub>10</sub>, X<sub>11</sub>, and X<sub>12</sub>. The analysis of the polysaccharides extd. by 3 different methods checked perfectly. Serum agglutinations were obtained when the polysaccharides were used in dilns. up to 1:5,000,000. Chem. analysis shows that the polysaccharide from <i>Proteus</i> X<sub>10</sub> differs from that of X<sub>11</sub> as follows: The X<sub>10</sub> polysaccharide contains about 60% glucosamine, whereas the X<sub>11</sub> polysaccharide contains none. On acid hydrolysis, the X<sub>10</sub> polysaccharide yields more reducing substances than the X<sub>11</sub> polysaccharide. Free amino groups are absent in the X<sub>10</sub> polysaccharide, but are present in the X<sub>11</sub> polysaccharide. The X<sub>12</sub> polysaccharide occupies an intermediate position; it contains about half the glucosamine and a fifth of the free amino groups as X<sub>11</sub>. Only those <i>Proteus</i> polysaccharides which contain glucosamine can act as antigens in typhus infections.</p> <p style="text-align: right;">H. Priestley</p> </div>									
ASB-SLA DETAIL LITERATURE CLASSIFICATION									
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">             SEARCHED INDEXED SERIALS UNIT ONLY ONE           </div> <div style="width: 45%; text-align: right;">             YES NO BOTH/NE CLASSIFY ONE ONLY TWO           </div> </div>									
ALPHA BETA GAMMA DELTA EPSILON ZETA ETA THETA IOTA KAPPA LAMDA MU NU Xi OMICRON PI RHO SIGMA TAU Upsilon PHIL CHI PSI OMEGA									

KUZIN, A. M.

"Khimiya i biokhimiya patogennykh mikrobov (Chemistry and Biochemistry of Pathogenic Microorganisms), Medgiz, 1946



1ST AND 2ND CROSS 2ND AND 4TH CROSS

200.3

CA 11A

Role of autocatalysis in the synthesis of polysaccharides.  
 H. A. M. Kuzin and V. I. Ivanov (Moscow Med. Inst.).  
 Dokl. Akad. Nauk SSSR 1948; cf. C.A. 80, 3550P. The  
 polysaccharide synthesized from glucose-1-phosphate  
 (Curl ester) with potato phosphorylase and a little starch  
 as an activating agent is sparingly sol. in water. There is  
 a rise in the viscosity if the concn. of the polysaccharide is  
 increased. The polysaccharide formed when glycogen is  
 used to prime the reaction is easily sol. in water. No in-  
 crease in viscosity is observed with an increase in the concn.  
 of the polysaccharide. The polysaccharide is less easily  
 split by potato amylase than the product obtained with  
 starch as the activating agent H. Priestley

COMMON ELEMENTS  
 COMMON VARIABLE INDEX  
 OPEN  
 MATERIALS INDEX  
 ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION  
 REGION SYMBOL  
 1ST AND 2ND CROSS  
 2ND AND 4TH CROSS

KUZIN, A. E., S. Z. SHAMING, AND S. YA. PEYGLA

"The Nature of the Cholera Antigen Prepared by Digestion with Trypsin,"  
1, 83-89, 1947

Zhurn. Mikrobiol.,  
Zhurn.  
Epidem. i Immu-  
Nobiol.,

KUZIN, A. M., Prof.

Pa 36T41

USSR/Medicine - Antigens and Antibodies Nov 1947  
Medicine - Immunity

"The Chemistry of Antigens," Prof A. M. Kuzin, 4½ pp

"Zhur Mikrobiol., Epidemiol i Immunobiol." No 11

One of the basic questions of the chemistry of antigens is that of the development of effective methods of extracting pure antigens from microbe cells. This presents itself as a purely chemical problem of isolating a substance, studying its chemical structure, and establishing the connection between their properties and the structural properties of these substances. Article is largely a historical account of the work done on antigens by Russian scientists.

LC

36T41

KUZIN, A.M., NEVRAYEVA, N.A.

"The Formation of Antibodies in Vitro"  
SO: Biokhimiya, Vol. XII, No. 1, Jan 1947  
W-326; 24 Mar 48

USSR/ Medicine - Antibodies  
Medicine - Microbiology

Jan 1947

Experiments on antibody formation in vitro with methylene blue, polysaccharides derived from: Shigella dysenteriae and paradys Flexner, full antigens derived from Shigella dysenteriae and paradys Flexner, etc., as antigens. Results largely negative.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																										MATERIALS INDEX																									
CA																										10																									
<p><b>Polarography of pyruvic acid enolization in the presence of amino acids.</b> A. M. Kuzin and I. E. El'piner (Bach Biochem. Inst., Moscow). <i>Biokhimiya</i> 12, 509-13 (1947); cf. <i>C.A.</i> 20, 1889; 33, 80829; 34, 79559.—It had previously been shown that the activity of the carbonyl group is enhanced by the presence of amino acids. The assumption was that the amino acids caused enol formation. This has now been proved polarographically. The addn. of glycine to pyruvic acid, at room temp., causes almost instant enolization. It was accidentally discovered that NaF (but not NaCl, NaBr, NaI) also causes enolization of pyruvic acid. H. Priestley</p>																																																			
ASA-3LA METALLURGICAL LITERATURE CLASSIFICATION																																																			
1ST AND 2ND ORDERS																																																			

KUZIN, A. M.

PA 21T99

USSR/Medicine - Saccharides  
Medicine - Proteins

Jun/Aug 1947

"The Specific Polysaccharide Complexes of Macro-organisms," A. M. Kuzin, I. S. Buyanovskaya, A. M. Rykaleva, N. I. Kuzina, Laboratory of Immunology, Institute of Biological Prophylaxy of Infections, Moscow, 10 pp

"Biokhimiya" Vol <sup>12</sup>~~11~~, No 4 *lib*

Polysaccharide complexes are isolated by special methods, from tissues of guinea pigs, white mice and human tissues. Investigation shows: Polysaccharide-protein complexes amount to 0.2 - 1.0% of weight of dry tissue; they have antigenic properties; dilutions of even 2:10<sup>5</sup> can be tested by senologic reactions, for the presence of such complexes. 21T99

ROBIN, R. L.  
"Modern Antigen Chemistry and the Genesis of the Antibodies," in the book:  
5-ya Sessiya AN SSSR, Moscow, 1948

USDA/Chemistry

Chemistry - Pyruvic Acid

Condensation - Condensation, Chemical Jan/Feb 1948

"Condensation of Pyruvic Acid in the Presence of Glycol," A. N. Kuzin, Inst of Biochem Lenin Lab of Chem of Plant Matter, A. R. Guseva, Moscow

"Biochim" Vol XIII, No 1

Important position occupied by pyruvic acid in the process of the metabolism of carbons, makes it clear that in the living organism it can serve as the basic material which when synthesized will produce the more complex materials having longer carbon chains and possessing acyclic or cyclic structures. Brief description of tests conducted. Submitted 28 Apr 1947.

64127

1ST AND 2ND ORDERS		PROCESSING AND PROPERTY INDEX		1ST AND 2ND ORDERS	
CA					
<p>Enzymic activity of the virus from the jaundiced silk-worm <i>Bombyx mori</i> L. A. M. Kuzin and R. V. Krashevskaya. <i>Biokhimiya</i> 13, 823 (1968). This virus accumulates in the lymph of diseased silkworms, in the form of crystal-like polyhedral bodies, these possess only a slight absorptive surface. The following enzymes were tested for and found to be absent: lipase, leucine aminopeptidase, nuclease, amylase, carboxylase, phenoloxidase, dehydrogenase, catalase, and protease. The virus does not reproduce itself. It penetrates the host cell and so modifies the synthetic processes that the cell begins to produce not only its own proteins but also the virus protein. H. Priestley</p>					
<p>Min. Public Health, Moscow Chair Organic Chem., Med. Inst RSFSR.</p>					
<p>ASH-ELA METALLURGICAL LITERATURE CLASSIFICATION</p>					
<p>SECTION SYMBOLS</p>					
<p>SECTION SYMBOLS</p>					

24

11-D

Labile substances of acyl phosphate type in green plant leaves. A. M. Kuzin and M. Ya. Shkol'nik. *Doklady Akad. Nauk S.S.S.R.* 29:941-4 (1948). - Substances of acyl phosphate type are detectable in green leaves by using the Lipsmann-Tottle hydrazonic acid test with  $\text{NH}_4\text{OH}$  (C.A. 39, 32109). The fresh leaves were ground in acetate buffer (pH 5.4) in the presence of 0.5 ml.  $\text{NH}_4\text{OH}$  soln. (made by mixing 30%  $\text{NH}_4\text{OH}$ -HCl soln. with 14%  $\text{NaOH}$ ) and a little ground glass; after 10 min. at room temp., proteins and pigments were removed with trichloroacetic acid, and 1 ml. of the filtrate was treated with 0.5 ml. 5%  $\text{FeCl}_3$  in 0.1 N HCl and the soln. examd. photometrically. The highest amt. of the active material was found in leaves of *Potamogeton perfoliatus* (300 micromoles per 100 g.), *trifolium* gave 150-180, sugar beet 52, nasturtium 60, tomato 54, and wheat sprouts 42. If the specimens were heated 5 min. to  $100^\circ$  after grinding almost all of the active matter was absent (0-3 units). Similar but slower effect was observed in allowing the ground preps. to stand up to 2 hrs. The intact leaves, however, appear to preserve the labile matter intact. The behavior of the material substantiates the acyl phosphate hypothesis. G. M. Kosolapoff

Lab. Growth Substances, Inst. Biochem. in Bak's

438-554 METALLURGICAL LITERATURE CLASSIFICATION

CA

110

Processes and Products Index

Oxidation of dihydroxymaleic acid in the green plant leaf. A. M. Kuzin and N. G. Doman. *Doklady Akad. Nauk. S.S.S.R.* 62, 255-8 (1948).—Vacuum infiltration of dihydroxymaleic acid into tradescantia leaf leads to its rapid disappearance, which was followed by  $\text{TiCl}_4$  reaction, in the presence of gum arabic as the stabilizing colloid, which enabled the color to be stable enough for detn. with standard solns. for reference. Dihydroxymaleic acid soln. (0.2%, pH 6.5 by  $\text{NaHCO}_3$ ) was infiltrated and 5 min. later the leaves were ground with 4% trichloroacetic acid, filtered, and the detns. run immediately. The ext. of ground leaves as such gives very slow disappearance of added dihydroxymaleic acid (still present after 3 hrs.); the result was similar when the entire leaf macerate was used. Hence, the reaction is caused by some unstable substances present only in a living leaf, which was confirmed by grinding fresh leaves with dihydroxymaleic acid soln. and using rapid detn. immediately; 100% disappearance was observed. Isolation attempts of the resulting product(s) by grinding the leaf with dihydroxymaleic acid soln. followed by  $\text{Cl}_3\text{CCOOH}$ , filtration and addn. of 2,4-( $\text{O}_2\text{N}$ ) $_2\text{C}_6\text{H}_3\text{NHNH}_2$  gave an orange osazone; treatment with warm  $\text{Ac}_2\text{O}$  gave a red solid, m. 251-2°, reagent, 39.9% C, 1.95% H, 21.3% N, corresponding to a pyrazolone deriv. of diketosuccinic acid, identified with an authentic specimen. The leaf substances which cause the conversion of dihydroxymaleic acid to diketosuccinic are very unstable, for heating a freshly cut leaf 3 min. at 100° destroys them completely; the same occurs on mere grinding of an intact leaf.

G. M. Kosolapoff

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

KUZIN, A. M.

PA 45/49T58

USSR/Medicine - Helminths and  
Helminthiasis

Jan/Feb 49

Medicine - Antigens and Antibodies, Analysis

"Chemical Nature of the Complete Antigens of  
Certain Helminths," A. M. Kuzin, S. N. Badad-  
zhanov, O. I. Polyakov, Chair of Org Chem, Med  
Inst, MZ KSSSR, Moscow, Uzbek IIM, Tashkent, 2 pp

"Biokhimiya" Vol XIV, No 1

Describes experiments on helminths *Taenia saginata*  
and *Ascaris lumbricoides*. Concludes that antigen  
evolved from helminths is a specific polysaccha-  
ride containing glucose and also glucosamine and  
45/49T58

USSR/Medicine - Helminths and  
Helminthiasis (Contd)

Jan/Feb 49

combined with amino acids. Ascarid and ox liver  
antigens have similar chemical compositions.  
Submitted 3 Jul 48.

45/49T58

// G

**Specific polysaccharide complexes in malignant tissues**  
 A. M. Kuzin and N. I. Kuzina. *Biokhimiya* 14, 432-5 (1919); cf. *C.A.* 32, 6322<sup>a</sup>; 42, 1345c.—The polysaccharides isolated from cancerous human tissues with  $\text{CCl}_4\text{-CH}_2\text{I}$  are almost identical chemically to those from healthy people. The cancerous tissue polysaccharides, however, do not possess the specific serological reactions of the particular blood group. The polysaccharide fractions from healthy and cancerous tissues obtained by decomposition of the complexes with phenol, according to Morgan and King (*C.A.* 30, 2385<sup>d</sup>) also differ serologically. The polysaccharide fraction from cancerous tissue is incapable of checking the hemagglutination reaction, whereas the normal tissue polysaccharide can do so in a diln. of 1:250,000. The serological difference can also be proved by immunizing rabbits and testing the serum for complement fixation; the reaction is pos. for the polysaccharide from normal tissue, and neg. in the case of malignant tissue.  
 H. Priestley

C 4

Investigation on the condensation of dihydroxyacetone, glyceraldehyde, and dihydroxyacetone phosphate in the green leaves of plants. A. M. Kuzin and N. G. Danan (Rach Biochem. Inst., Moscow). *Riboflavin* 14, 400 (1962) - Some theories on photosynthesis postulate the formation of low-mol. carboxyl compds. as intermediates in the synthesis of carbohydrates. Green leaves do not possess enzyme systems for the condensation into simple sugars of either dihydroxyacetone phosphate, free dihydroxyacetone, or glyceraldehyde. H. Priestley

(BA-1111 M<sub>y</sub> '53:726)

KUZIN, A.M.

USSR/Medicine - Plant Physiology Apr 49  
Medicine - Hydroxylamines

"The Chemical Nature of Certain Unstable Substances in the Green Leaves of Plants," A. M. Kuzin, R. Ya. Shkol'nik, Lab Chem of Plant Substances, Inst Biochem imeni A. N. Bakh, Acad Sci USSR, 4 pp

<sup>65</sup>  
"Dokl Ak. Nauk SSSR" Vol LXV, No 4-p. 527-30

Experimentally established that unstable peroxides are present in green leaves of plants. These unstable peroxides set up the reaction of hydroxamic acid formation during action of hydroxylamine on

41/49T51

USSR/Medicine - Plant Physiology Apr 49  
(Contd)

the leaf. Submitted by Acad A. I. Oparin,  
2 Feb 49.

PA 41/49T51

41/49T51

KUZIN, A. M.

PA 39/49T84

USSR/Medicine - Plant Physiology  
Medicine - Photosynthesis

Apr 49

"The Importance of Unstable Peroxides From the  
Green Leaves of Plants for Photosynthesis,"

A. M. Kuzin, R. Ya. Shkel'nik, Lav Plant Chem,  
Inst Biochem imeni A. N. Bakh, Acad Sci USSR,  
4 pp

"Dok Ak Nauk SSSR" Vol LXV, No 5 p. 719-722

Used reaction of hydroxamic acid formation to  
experimentally verify A. N. Bakh's supposition  
that unstable peroxides participate in photo-  
synthesis. Submitted by Acad A. I. Oparin,  
2 Feb 49.

39/49T84

USSR/Medicine - Immunology

Apr 50

"Contemporary Chemistry of Antigens and the Genesis of Antibodies," Prof A. M. Kuzin

"Trudy 5-oy Sessii, Ak Med Nauk SSSR" pp 112-119. Conference held 23 - 27 Dec 48, in Moscow, on problems of immunity and influenza.

Work at author's laboratory showed that pathogenic bacteria contain a phosphorylase which synthesizes polysaccharides not only from dextrose-1-phosphate, but also from 1-phosphates of other monoses occurring in sp polysaccharides of these bacteria. Helminths also contain antigens of the polysaccharide

206T87

USSR/Medicine - Immunology (Contd)

Apr 50

type. The high stability of sp polysaccharides to enzymatic hydrolysis indicates that one of their functions must be protection of the microorganism. L. Pauling's views on the formation of antibodies are too mechanistic: Antibodies are synthesized in the organism. From the standpoint of USSR health protection, isolation of immunologically full-valued antigens from brucella, and causative agents of tularemia, anthrax, whooping cough, etc., is of importance.

206T87

KUZIN, A. M., PROF

C.A.

11 d

Distribution of easily hydrolyzable compounds containing hexosamine in different tissues of animals and man. A. M. Kuzin and B. N. Gialyshev (Moscow Med. Inst.). *Biochimiya* 15, 316-20 (1950). - The defatted, dry, powder tissue was heated on the water bath with  $N$  HCl for 4 hrs. The hydrolyzate was neutralized with dry  $NaHCO_3$ , and the ppt. removed by centrifugation. Hexosamine was detd. colori-

metrically in the slightly colored but clear hydrolyzate by the method of Kilson and Morgan (C.A. 28, 3339). This yielded the hexosamine of such compds. as specific polysaccharides, hyaluronic acid, and glycoproteins. Difficultly hydrolyzable substances like heparin, mucopolysaccharides and chondroitinsulfuric acids require concd. HCl or 20% HCl at  $135^\circ$  in order to liberate hexosamine. The tissues investigated were from 4 rabbits, 2 pigs, and 6 corpses. The easily hydrolyzable compds. contg. hexosamine were found in practically every tissue of the animal organism. The hypothesis regarding the protective function of these substances was borne out by the high content of hexosamine in the human stomach lining (1000-1135 mg. %), mucous membrane of the uterus (700-1750 mg. %), the inner layer of the aorta (870-1050 mg. %), lymphatic nodes (430-870 mg. %), and lung tissue (400-800 mg. %). A high content of hexosamine was found in the gray matter of the brain (700-1140 mg. %) and in the cortex of the cerebellum (430-970 mg. %), and less in the white brain matter (330-600 mg. %). A high content of hexosamine was also found in the thyroid gland (735-1765 mg. %), suprarenals (865-900 mg. %), and salivary glands (565-1300 mg. %). The amt. of hexosamine in the thyroid and in the ovaries decreased with the age of the organism. H. P.

CA

72

Study of photosynthesis by ionophoresis. A. M. Kuzin and N. G. Doman. *Doklady Akad. Nauk S.S.S.R.* 72, 77-80 (1950).—Ionophoretic expts. were performed in a glass plate vessel, vertically partitioned, irradiated with a 500-w. lamp and equipped with slow water input and outflow. The exptl. middle chamber, filled with the leaves under study was sepd. from the electrode chambers by cellophane and the electrode plates were kept at 0 v. drop with 0.5 ma. current flowing through the system over a 24-hr. exptl. period. From *Potamogeton pectinatus* leaves ionophoresis exts. photosynthetic active substances which differ from those extd. in dark states. These substances are acidic (found in anode compartment) and give reactions of keto acids, reduce ammoniacal  $\text{Ag}_2\text{O}$  and  $\text{HgCl}_2$  but react weakly with Fehling soln. until hydrolyzed by acids. The results indicate that acid derivs. of carbohydrates participate in photosynthesis. Participation of phosphate is rejected as easily hydrolyzed P is absent, while tightly bound P is present equally in light and dark reaction products. Pyruvic acid was absent, but glyoxalic acid was present as were peroxides. Possibly  $\text{CO}_2$  is fixed on the mols. of carbohydrates forming alduronic acids.  
G. M. Kosolapoff

C 4

// U

Participation of alduronic acids in photosynthesis.  
A. M. Kuzin and R. Ya. Shkol'nik. *Doklady Akad. Nauk SSSR*, 73, 355-8(1950).—Extn. of leaves of various plants with hot  $H_2O$  and extn. of the latter with iso-AmOH, followed by pptn. of the concd. aq. layer by means of EtOH yielded, in all cases, ppts. giving pos. tests for uronic acids, neg. tests for pyruvic acid or glyoxalic acid. These alduronic acids are invariably present when the leaves are stored in darkness, but vanish totally or partially upon irradiation in the absence of  $CO_2$  in the atm. ( $CO_2$ -free air or  $H$  atm.). Wheat sprouts grown in total darkness failed to show uronic acids in the above technique, although sprouts grown with exposure to light readily gave pos. tests. The results are similar with isolated chloroplasts. It is suggested that part of the photosynthesis reaction chain involves formation of peroxides of carbohydrates having the structure  $RC(O_2)OH$ , with  $CO_2$  adding between the C atom and the OH; this forms substances capable of uronic acid tests and capable of being reduced to ketonoldehydes. G. M. Kosolapoff

C.A

116

Content of specific polysaccharides in human saliva in healthy and virus gripe subjects. A. M. Kuzin, G. P. Nikol'skij, and B. Lesin (Moscow Med. Inst., Ministry of Health, R.S.F.S.R.). *Doklady Akad. Nauk S.S.S.R.* 73, 767-79(1991); cf. C.A. 42, 1345c. --In gripe the specific polysaccharides (detd. by the technique of retardation of hemolysagglutination) either vanish completely or are greatly reduced in concn. in human saliva. On convalescence normal values are attained. Possibly the polysaccharides are combined with the virus protein during the disease, thereby losing their specific pptn. properties. This contention is supported by *in vitro* expts. G. M. K.

KUZIN, A. M.; LEVSHIN, V. L.

Photosynthesis

Careless work "Nourishment of plants by light (photosynthesis)." D. I. Sapozhnikov. Reviewed by A. M. Kuzin, V. L. Levshin)., Vest. AN SSSR, 21, no. 12, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCLASSIFIED.

CA

110

The action of phenylurethan on photosynthesis. A. M. Kuzin and R. Ya. Shkol'nik. *Doklady Akad. Nauk S.S.S.R.* 78, 649-51(1951).—Immersion of cuttings of *Potamogeton perfoliatus* in 0.05 and 0.1% phenylurethan decreases respiration rate in immersions up to 3 hrs.; a 12-hr. immersion drops respiration to 50% of normal. Photosyn-

thesis is affected much more and 2 hrs. in 0.05% soln. stops it completely. Substances pptd. by  $\text{BaCl}_2$  from 80%  $\text{EtOH}$  ext. drop sharply after such immersions. The  $\text{EtOH}$  exts. some coloring matter from the plants. This material shows reducing properties and is increased by hydrolysis with 0.5 N  $\text{HCl}$ ; uronic acid test is weakly pos. and methyl-pentose test is pos. with indications of the presence of rhamnose. G. M. Kozolapoff

USSR/Biology -

Radioactive Tracers;  
Carbonate Fertilizers

1 Aug 51

"The Possibility of Assimilation by Plants of Carbonates from the Soil," A. I. Kurasanov, Corr Mem, Acad Sci USSR, A. M. Kuzin, Ya. V. Mamul', Inst of Biochem Imeni A. N. Bakht and Lab of Biophysics, Isotopes, and Radiations, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol <sup>79</sup>LXXIX, No 4, pp 685-688

In view of the fact that supplementary feeding of plants with CO<sub>2</sub> through the roots may improve yields, the question of the assimilation of

217710

carbonate solns from the soil was investigated on *Phaseolus vulgaris* by using a Knop soln contg NaHCO<sub>3</sub> with C<sup>14</sup>. The evaluation of the contact photographs ("radioautographs") shows (1) that the carbonate is assimilated; (2) that assimilated CO<sub>2</sub> from the soil are utilized by the plant in the same manner as CO<sub>2</sub> resorbed from the air, because assimilation occurs only in the light.

217710

K. J. V.

~~Highly Active Isotopes and their Use in~~

Biology and Medicine

*Handwritten signature*

Translation D-131917, Dec. 84

KUZIN, A. N. Prof.

Biological Physics

Tasks and prospects for the development of  
Soviet biophysics. Vest. AN SSSR 22, no. 3, 1952.

Monthly List of Russian Accessions. Library of Congress, October 1952. UNCLASSIFIED.

KUZIN, A.M.

USSR/Chemistry, Biological - Isotopes 1 Jul 52

"Biosynthesis of Glutamine, Hydrocarbons, and Proteins  
Containing Radioactive Carbon," A. M. Kuzin, V. I.  
Merenova, Lab of Biophys, Isotopes, and Radiation,  
Dept of Biol Sci, Acad Sci USSR

"Dok Ak Nauk SSSR, Vol LXXXV, No 1, pp 181-183

Describes procedure for prep of glutamine, glucose  
fructose, proteins, and pentosans contg  $C^{14}$  by the  
method of biol photo synthesis. Presented by Acad  
A. I. Oparin 24 Apr 52.

224T25

*Translation in /M -*

211

History 11-10

Biosynthesis of nicotine labeled with carbon<sup>14</sup> and the  
processes of transmethylation in tobacco leaves. A. M.  
Kuzin and V. I. Merenova. *Doklady Akad. Nauk S.S.S.R.*  
23, 381-3 (1952). -- Tobacco leaves (on the plant) were kept  
in the dark 2 days, cut, placed in a vessel with CO<sub>2</sub> labeled  
with <sup>14</sup>C, and subjected to illumination for 24 hrs. with elec.  
bulb; inactivation with hot water, mixing with ordinary  
tobacco leaves, wash, mincing of the mixt., and steam  
distn. from 2% NaOH gave the alkaloidal distillate, which  
was pptd. with silicotungstic acid; the ppt. showed radio-  
activity (60 counts/min./mg.). Steam distn. again after  
decompn. with NaOH and sepn. of nicotine as picrate gave  
material with 31 impulses/min./mg. indicating introduction  
of C<sup>14</sup> into the alkaloid. If the leaves after irradiation are  
kept in the dark 8 hrs. the activity of isolated nicotine  
rises to over 100. Oxidation of the product with SeO<sub>2</sub>  
showed that the C<sup>14</sup> is located in the N-Me group of the  
pyridine of nicotine. Leaves of *Nicotiana* thus carry on  
transmethylation with participation of nicotine.  
G. M. Kuzolapoff

KUZIN, A. M.

235T6

USSR/Biology, Agriculture - Assimilation 21 Jul 52  
of Carbon Dioxide

"Assimilation of Carbon Dioxide by Plant Roots,"  
A. M. Kuzin, V. I. Merenova, Ye. V. Mamul', Lab of  
Biophysics, Isotopes, and Radiation, Dept of Biol Sci,  
Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 645-647

By using CO<sub>2</sub> or carbonate solns tagged with radio-  
active carbon, established that CO<sub>2</sub> is resorbed  
through the roots of Phaseolus vulgaris and reaches  
the leaves. When there is no transpiration of the  
leaves, or the roots have been detached, CO<sub>2</sub> is  
assimilated by the roots rather than the green  
235T6

parts of the plant. Assimilation of CO<sub>2</sub> by de-  
tached roots of Primula obconica (thus eliminating  
the effect of any nodule bacteria which may have  
been present on Phaseolus vulgaris) was also es-  
tablished. Presented by Acad A. I. Operin  
29 Apr 52.

235T6

KUZIN, A. M., MAMUL', Ya. V.: KHUDYAKOVA, R. I., DOMAN, N. G.  
Photosynthesis

Problem of diversity of primary products of photosynthesis in different  
species of plants. Dokl. AN SSSR 86 no. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, December, 1952.  
Unclassified.

KUZIN, A.M.:GARZUNOVA, G.A.

Early hydrolysing compounds containing hexosamine in the human  
brain. Doklady Akad. nauk SSSR 87 no. 5:833-835 11 Dec 1952.

(GLML 23:5)

1. Presented by Academician A. I. Oparin 18 October 1952. 2. Ra-  
san' Medical Institute imeni I. P. Pavlov.

The chemical characteristics of whole liver fluke antigens.  
B. N. Babadzhanyan and A. M. Kasim. Doklady Akad.  
Nauk Uzbek S.S.R. 1953, No. 11:44-47 (in Russian); Referat.  
Zhur. Khim., Biol. Khim. 1953, No. 6027. The dry product  
of the ground helminths was digested by 0.1% pepsin at pH  
1.5. The undigested portion was pptd. with  $\text{CCl}_3\text{CO}_2\text{H}$  and  
the ppt. centrifuged down. The supernatant was neutral-  
ized with  $\text{NaOH}$ , dried, and the antigen pptd. with  
acetone. It was redissolved in  $\text{H}_2\text{O}$  and reprecipitated, first with  
acetone and then with alc. Glycogen was then eliminated  
by salivary amylase, and the antigen pptd. twice with alc.  
A N-free antigen was thus prepd. which contained a small  
amt. of carbohydrate (10.8-17.9% reducing substances  
(base not given) after 2 hrs. hydrolysis in  $\text{N H}_2\text{SO}_4$ ) and  
45-60% inorg. material.

B. S. Levina

①

KUZIN, A. N.

USSR/Medicine - Morphology

Nov/Dec 53

"Plenary Session of All-Union Scientific Society of Anatomists, Histologists, and Embryologists, in Leningrad," D. A. Zhadanov and E. Sh. Garlovir

Usp Sov Biol, Vol 36, No 3(6), pp 380-389

This session was held 23-27 Jun 53 in Leningrad to discuss the role of morphology in the USSR, new methods and techniques of morphological research, and plans for making anatomical and histological work in higher institutes of learning serve a more practical purpose. The key speech was made by A. N. Studitskiy and "The Tasks of Soviet Morphology." He only mentioned the existence of tasks and then launched into a theoretical discussion of the Soviet concept of morphology. This speech was discussed, then other reports were read, among them "Electron Microscopy in Cytohistological Research" by Prof. G.M. Frank (Moscow), and a report on Radioautography by A.M. Kuzin (Moscow). The article does not disclose any new organizational plans.

Kuzin H.M.

USSR.

Assimilation of carbon through the roots of the plant from organic fertilizers. A. M. Kuzin and V. I. Metenova. *Doklady Akad. Nauk S.S.S.R.* 90, 677-9 (1953); cf. *C.A.* 46, 1134c. — Green plants cultivated in  $C^{14}O_2$ -labeled atm. were used as green fertilizer labeled with  $C^{14}$ , which was mixed into soil in which wheat sprouts were grown. The growing plants were then radiocounted at intervals. It is shown that the C of the soil fertilizer is energetically used by the plant roots, especially in the first days after introduction. Over 2 months the soil lost some 55% C introduced as org. fertilizer. In the first days when the soil is rich in  $CO_2$  the latter rapidly enters the leaves and stems of the growing plants; after 30-60 days the process is much slower.

G. M. Kosolapoff

KUZIN, A. M.

11 Aug 53

USSR/ Biology - Radiation Effects Isotopes.

"The Problem of the Mechanism of the Action of Penetrating Radiation on the Synthesis of Nucleoproteids in the Spleen," A.M.Kuzin, Ye.V.Dudilova, Inst of Biol Physics, Acad Sci USSR

DAN SSSR, Vol 91, No 5, pp 1183-1186.

Max inclusion of P<sup>32</sup> into the protein fraction of the rat spleen and max suppression of this inclusion by irradiation immediately preceding injection of P<sup>32</sup> phosphate occurred 19-20 hrs after the injection. Irradiation of the head of rats with X-rays (1000 r) had little effect on the inclusion of P<sup>32</sup> into spleen nucleoproteids. Suppression of P<sup>32</sup> inclusion by 60-65% occurred when the spleen was irradiated directly with X-rays (1000 r), but the rest of the body shielded with lead. Suppression by 20% occurred when the spleen was shielded with lead, but the rest of the body irradiated. Presented by Acad A.I. Oparin 18 Jul 53.

266T1

KUZIN, A. M.

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
biological Chemistry

Participation of complex polysaccharides in carbohydrate metabolism. A. M. Kuzin, G. A. Garzunova, and Ya. V. Mamul. *Doklady Akad. Nauk S.S.S.R.* 92, 637-40 (1953).  
—White rat injected intravenously with  $C^{14}$ -labeled glucose (obtained photosynthetically) shows a rapid increase of  $C^{14}$  activity in its tail venous blood after 1 hr., after which the activity declines steadily over 0.5 hrs. to almost 0. The activity of tissues (per 100 g.) was in the following declining order: intestine, kidney, spleen, brain, liver, blood, heart, muscle. Most carbohydrate in the  $C^{14}$ -contg. fraction is in low-mol.-wt. form in these organs and may contain the glucose formed from degradation of glycogen during the isolation of the tissues. The femoral bone shows considerable uptake of  $C^{14}$  from the glucose. The gray matter of the brain is much more active in accumulation of  $C^{14}$  than the white matter.  
G. M. Kosolapoff

KUZIN, A.M. ....

The Committee of State Prizes for the Soviet Union of Ministry of Higher Education and Science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for State Prizes for the years 1962 and 1963. (Sovetskaya Kultura, Moscow, No. 27-44, 27 Feb - 1 Apr 1964)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Kursanov, A.L.	"Plant Utilization of Soil	Institute of Biochemistry
Kuzin, A.M.	Carbon Dioxide Entering	Imeni A.N. Bakh, Academy of
Kryukova, N.N.	Through the Roots"	Sciences USSR
Merenova, V.I.		

Doc. W-95513R-17 July 1964

KUZIN, A. M.

Radioactive tracers in agricultural research Moskva, Izd-vo Akad. nauk SSSR, 1954.  
100 p. (Akademiia nauk SSSR. Nauchno-populiarnaia seriia) (55-40921)

S507.K07

KUZIN, A. M.

Excerpta Medica sec 16 3/3 Mar 55 Cancer

863. KUZIN A. M. and DAVIDOVA S. Ya. Inst. of exp. Path. and Therap. of Tumours, Acad. of med. Sci., Moscow *The metabolism of nucleic acid and its nitrogen bases in rabbits subject to neoplastic growth (Russian text)* Biokhimija 1954, 19/2 (184-188) Tables 3

The investigations were made on male rabbits with Brown-Pearce tumours, divided into: (1) controls, (2) testis-inoculated positive animals and (3) animals immune after 3-fold inoculation. Assays of the nucleic acids (RNA and DNA) and the nitrogen bases (adenine, guanine and thymine) in the liver, lung, kidney, spleen and testis are presented in 3 tables. The nucleic acids in the organs were low in both the positive inoculated and in the immune animals, as compared with the controls. This shows that the same changes occur in the organs when the tumour does not 'take' as when a growing tumour is present. No notable changes in the adenine and guanine content of the organs were observed with growing tumours, but the thymine level of DNA, particularly in the liver, was higher in tumour rabbits.

Brandt - Berlin

KUZIN, AM

Kuzin, A. M.

# USSR

A method for the determination of aminosaccharides of easily hydrolyzed hexamine-containing compounds in plant material. A. M. Kuzin and B. N. Ghdyshev (A. N. Bakht Inst. Biochem., Acad. Sci. U.S.S.R., Moscow). *Biohimiya* 19, 666-9 (1974). -- It was shown that the method of Elson and Morgan (C.A. 28, 3339) produces artifacts which simulate hexamines in plant material, and is therefore not suited for the purpose intended when plant material is studied. A new method is described which enables the detn. of the relative content of high mol. hexo-amine contg., easily hydrolyzed compds. in plant material. B. S. L.

KUZIN, A.M. (Moskva)

Biologically active polysaccharides. Usp.biol.khim. 2:256-276 '54.  
(MIRA 12:12)

(POLYSACCHARIDES,  
biol.active)

KUZIN, A.M., doktor biologicheskikh nauk.

~~XXXXXXXXXXXX~~  
Agriculture and problems of biological physics. Vest. AN SSSR 24 no.4:  
45-51 Ap '54. (MIRA 7:5)  
(Biophysics)

KUZIN, A. M.

Direct assimilation of carbon from organic fertilizers by a plant. V. I. Merenova and A. M. Kuzin. *Doklady Akad. Nauk S.S.S.R.* 94, 573-6(1954); cf. *ibid.* 90, 977(1953).— Radioactively labeled org. compounds of water-sol. and -insol. types were administered from culture soil to wheat and tobacco plants and the plant sprouts were subjected to radioautophotography in the conventional manner. Thus tobacco plants readily assimilate C from water-sol. sugars, amino acids, and org. acids (AcOH, glycine). The plants show relatively slow assimilation of C from water-insol. materials. Generally the assimilation proceeds at the expense of CO<sub>2</sub> liberated by bacterial action of the soil from its org. content as well as by direct utilization of the org. matter by the plant. G. M. Kosolapoff

*KUZIN, A.M.*

USSR/Medicine - Physiology

Card 1/1 : Pub. 22 - 20/44

Authors : Kuzin, A. M.; and Budilova, E. V.

Title : Effect of ionizing radiation on the structural viscosity of nucleic acid of the brain and a spleen

Periodical : Dokl. AN SSSR 98/6, 961-964, October 21, 1954

Abstract : Experiments, which were intended to determine how ionizing radiation effects the change in the structural viscosity of nucleic acid taken from the brain and spleen of live animals, are described. Four references; 1 U.S.S.R. (1915-1953). Graphs.

Institution : Institute of Biological Physics of the Acad. of Scs. of the USSR.

Presented by: Academician L. S. Shtern, June 7, 1954.

*Translation M-479, 31 May 55*

KUZIN, A.M.

USSR/ Chemistry - Biochemistry

Card 1/1 : Pub. 22 - 22/40

Authors : Kuzin, A.M., and Eydus, L. KH.

Title : Deuteration of acetone in the presence of amino acids

Periodical : Dok. AN SSSR 99/3, 421-422, Nov 21, 1954

Abstract : The rate of penetration of deuterium into the acetone molecule and the effect of amino acid - glycocoll - on the process of acetone deuteration, were investigated. The rate of acetone deuteration in the absence of glycocoll was found to be low, and less than 1% of the total number of hydrogen atoms in the acetone underwent a change. The accelerating effect of glycocoll was proven. The formation of an enol form in the acetone under the effect of glycocoll was established. Seven references: 5-USSR and 2-German (1934-1951). Table; graph.

Institution : Academy of Sciences USSR, Institute of Biophysics

Presented by : Academician A.I. Oparin, September 11, 1954

KUZIN, A. M.

"The Utilization of Ionizing Radiation in Agriculture," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

KUZIN, A.M., [REDACTED], and SHAPIRO, N. I.

"The Role of the Physiological Condition of an Organism on Use of Agents Which Protect Against the Harmful Action of Penetrating Radistions." in the book : "Collection of Works on Radiobiology" edited by N.I.N. Publ. House of AS USSR, Moscow 1955.

*Nuzhdin*

KUZIN, A. M., [REDACTED], SHAPIRO, N. I.

"The Effect of Estrogens on the Radiation Reaction of Mice."  
in the book, "Collection of Works on Radiobiology" edited by N.I.N. Publ.  
House of AS USSR, Moscow 1955.

*Muzhikov*

USSR/General Biology. Physical and Chemical Biology.

B-1

Abs Jour: Ref Zhur-Biol., No 20, 1958, 90270.

Author : Kuzin, A.M.

Inst :

Title : Tasks of Biophysics in Agriculture (Preface)

Orig Pub: V sb.: Tr. nauchnoy sessii, posvyashchennoy dostizheniyam  
i zadacham sov. biofiziki v s. kh. M., Izd-vo AN SSSR,  
1955, 3-7.

Abstract: No abstract.

Card : 1/1

4302. Action of pectinase on the ...  
of water ...

Acad. Sci. U.S.S.R. 1953, 16, 30 ...

of mg ...

general ...

and ...

the ...

spending ...

of ...

in the ...

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

... ..

(0.025 to 0.8 mg) showed in all cases a survival rate approx. double

10-30 days before reaction... in providing the...  
of protection...  
is a matter... and protection had fully disappeared...  
20 days. With repeated... 20 mg of...  
substance... reaction was...  
reaction was...  
and the...  
injection...  
with...  
that the...  
activity...